

NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD

HEDGEROW PLANTING

(Feet)

CODE 422

DEFINITION

Establishment of dense vegetation in a linear design to achieve a natural resource conservation purpose.

PURPOSE

Providing at least one of the following conservation functions:

- Food, cover and corridors for terrestrial wildlife.
- Food and cover for aquatic organisms that live in watercourses with bank-full width less than 5 feet.
- To intercept airborne particulate matter.
- To reduce chemical drift and odor movement.
- To increase carbon storage in biomass and soils.
- Living fences
- Boundary delineation
- Contour guidelines
- Screens and barriers to noise and dust
- Improvement of landscape appearance

CONDITIONS WHERE PRACTICE APPLIES:

This practice applies wherever it will accomplish at least one of the purposes stated above.

CRITERIA

General Criteria Applicable to All Purposes

Hedgerows shall be established using woody plants, or perennial bunch grasses producing erect stems attaining average heights of at least 3 feet and persisting well over winter.

Plants selected must be suited and adapted to the soils, climate and conservation purpose.

No plant listed by the state as a noxious weed shall be established in a hedgerow.

The practice shall be protected from livestock grazing and trampling to the extent necessary to ensure that it will perform the intended purpose(s).

[Management activities will not disturb cover during the primary nesting period \(April 15th - August 1st\).](#)

Competing vegetation shall be controlled until the hedgerow becomes established. Control shall continue beyond the establishment period, if necessary.

All planned work shall comply with federal, state and local laws and regulations.

Additional Criteria for Wildlife Food, Cover and Corridors

Establish at least [five](#) species of native vegetation. [See practice standard Tree and Shrub Establishment \(612\) and or Riparian Forest Buffer \(391\) for list of species. Use spacing specifications from these standards.](#)

Selected plants shall provide cover and/or food to support the landowner's wildlife objectives. [Select plant species that provide berries or nuts for wildlife food and nectar for pollinators.](#)

Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version of this standard, contact the Natural Resources Conservation Service.

Intersperse plantings with groupings of conifers to provide year round cover.

For wildlife habitat purposes, minimum hedgerow width, at maturity, shall be 30 feet. This will necessitate the establishment of more than one row of plants. Shrubs and trees should be planted 8-15 feet apart. Trees will be spaced based upon the upper value and shrubs upon the lower. Vary spacing to increase horizontal vegetative diversity. Some areas should be spaced more densely for protective cover.

Hedgerows that are intended to serve primarily as wildlife travel corridors should be a minimum of 50 feet wide. The height, width, and location of these hedgerows shall be designed so that they connect two or more habitat areas, and provide protective cover and dispersal networks for the desired wildlife species and other animals.

In plantings adjacent to small watercourses, the plantings shall be site-adapted, large enough at maturity and installed close enough to shade the watercourse.

Additional Criteria for Living Fences

Selected plants shall attain a size adequate to create a barrier to contain livestock or humans, as needed.

If the purpose is to contain livestock, selected plants shall not be poisonous or hazardous to the animals.

Additional Criteria for Boundary Delineation

Hedgerows shall be aligned along boundaries of fields, or forestlands to differentiate land management units.

Additional Criteria for Contour Guidelines

Hedgerows shall be aligned so they provide permanent contour markers supporting implementation of Contour Farming (330) or Stripcropping (585). Refer to those conservation practice standards for alignment criteria.

Additional Criteria for Screens and Noise Barriers

Screening hedgerows provide privacy, hide unsightly areas from view or reduce noise.

Hedgerows shall be located where they most completely obstruct a line of sight or offensive sound.

Selected plants shall attain a height and fullness sufficient to break the line of sight or baffle sound.

See Practice Standard 380 – Windbreak/Shelterbelt Establishment.

Additional Criteria for Improvement of Landscape Appearance

The hedgerow design shall meet the aesthetic objectives of the landowner.

Plants shall be selected based upon the landowner's preferences for color, texture and growth habit.

Additional Criteria for Reducing Particulate Matter Movement

The hedgerow will be oriented as close to perpendicular to the prevailing wind direction as possible.

Hedgerow density on the upwind side shall be at least 50% at maturity.

Hedgerow density adjacent to the particulate source shall be at least 65% at maturity.

See Practice Standard 380 – Windbreak/Shelterbelt Establishment.

Additional Criteria to Reduce Odor Movement and/or Chemical Drift

Orientation of the hedgerow shall be as close to perpendicular to the prevailing wind direction during the period of concern, and between the source of the odor or chemical drift and the sensitive and the sensitive areas.

Hedgerows shall be located upwind of the odor producing area and the chemical application area.

Tree and shrub species used shall have foliar and structural characteristics that optimize interception, adsorption and absorption of airborne chemicals or odors.

See Practice Standard 380 – Windbreak/Shelterbelt Establishment.

CONSIDERATIONS

General

Planting a hedgerow larger than the minimum length and width will increase the amount of carbon stored in the soil and biomass.

Hedgerows can be planned in combination with other practices to develop complete conservation systems that enhance landscape aesthetics, reduce soil erosion, improve sediment trapping, improve water quality and provide wildlife habitat.

Hedgerows following land contours create meandering lines on the landscape, produce a natural appearance and increase the availability of “edge” wildlife habitats.

Hedgerows containing a mixture of native shrubs and small trees provide the greatest environmental benefits.

Use of bareroot and containerized seedlings will accelerate hedgerow development.

Consider the amount of shading a hedgerow will provide at maturity. Shading may impact growth of adjacent plants, microclimate and aesthetics.

Limiting renovation [or vegetative management](#) events to one-third of a hedgerow’s length or width will prevent sudden elimination of the practice’s wildlife habitat function.

Periodic root pruning can reduce nutrient and water robbing from adjacent cropland.

Consider avoiding the use of plants that spread by root suckers as hedgerow may expand beyond the desired treatment area.

Wildlife Food, Cover and Corridors

Hedgerows can provide travel lanes, or corridors that allow wildlife to move safely across a landscape.

Generally, wider corridors accommodate more wildlife use. [Additionally, planning for varying heights of vegetation and density throughout the hedgerow will provide vertical and horizontal structural diversity and optimize wildlife use.](#)

Linking fragmented habitats may increase wildlife use of an area.

In grassland ecosystems, hedgerows may adversely affect area-sensitive nesting birds by fragmenting habitat patches and increasing the risk of predation.

Hedgerows can complement the availability of naturally occurring wildlife foods.

Hedgerows can provide wildlife with cover for feeding, loafing, nesting and caring for young.

[Consider establishing hedgerows along different land cover boundaries such as between herbaceous fields and mature forest. This will create a transition area \(“soft edge”\) that provides important habitat to a wide range of wildlife species.](#)

Dense or thorny shrub thickets provide songbirds with important nesting sites and a refuge to escape predators.

Establishment of evergreen plants provides year-round concealment and thermal cover for wildlife.

Establishment of herbaceous vegetation along the edges of a hedgerow can further enhance the habitat functions of a hedgerow.

[Consider leaving sections of stone walls free from vegetation and shading to benefit reptiles. Where there are no stone walls, consider piling stones along the hedgerow. For additional cover, brush piles may be incorporated into the hedgerow.](#)

Installation of artificial nest boxes with predator guards can encourage cavity-nesting birds and small mammals to utilize a hedgerow.

Living Fences

Thorny shrubs and trees can improve a living fence’s barrier effect.

Screens and Noise Barriers

From eye-level, hedgerows reduce the line-of-sight across open areas, concealing objects behind them from view.

Consider the design from viewpoints on both sides of the screen.

Locate noise barriers as close to the source of noise as possible.

Combination of shrubs and/or trees can create more effective screens than single species plantings.

Evergreens provide foliage that can maintain a screen's year-round effectiveness.

Improving Landscape Appearance

Consider plants' seasonal display of colors on bark, twigs, foliage, flowers and fruit.

Consider plants' growth habits (outline, height and width).

Water Quality and Quantity

Water quality benefits may arise from:

- Arresting sediment movement and trapping sediment-attached substances.
- Infiltration and assimilation of plant nutrients.
- Water cooling effects resulting from increased shade on small watercourses.

A hedgerow will increase surface water infiltration by improving soil structure around its root zone. However, evapotranspiration may reduce groundwater recharge benefits.

Incidental Trapping of Snow or Soil

Although not a primary purpose, hedgerows may incidentally trap wind blown snow or soil.

Consider installing hedgerows on alignments that prevent trapping and accumulation of snow and sand on public roads.

Refer to the Windbreak/Shelterbelt Establishment (380) standard for criteria when snow or sand trapping is a primary conservation purpose.

PLANS AND SPECIFICATIONS

Plans and specifications for this practice shall be prepared for each site. Plans and specifications shall be recorded using approved specification sheets, job sheets, or narrative documentation in the conservation plan, or other acceptable documentation.

OPERATION AND MAINTENANCE

Vegetation shall be maintained to ensure continued control of odor movement and chemical drift.

Supplemental planting may be required when survival is too low to produce a continuous hedgerow.

Vegetation shall be protected from unwanted fire and grazing throughout its life span.

Pests, [including invasive plants and State listed noxious weeds](#), shall be monitored and controlled.

Periodic applications of nutrients may be needed to maintain plant vigor.

Renovation/[management](#) activities shall be scheduled to prevent disturbance during the wildlife nesting season ([April 15th – August 1st](#)) and should not significantly compromise [habitat function](#).

REFERENCES

National Biology Handbook, Part 614.4, "Conservation Corridor Planning at the Landscape Level". Natural Resources Conservation Service, August 1999.

[Sargent, M.S and Carter, K.S., ed. 1999. Managing Michigan Wildlife: A Landowners Guide: Field Borders and Corridors. Michigan United Conservation Clubs, East Lansing, MI. 297pp.](#)
http://www.michigandnr.com/publications/pdfs/huntingwildlifehabitat/Landowners_Guide/Habitat_Mgmt/Cropland/index.htm